

Is this Stream Healthy?

Audience: 6th grade

Time: 3 hours

Location: Dogwood Nature Center

Learning Objectives:

- Students will be able to describe characteristics of a healthy stream.
- Students will be able to identify different macroinvertebrates living in the stream.
- Students will practice various water chemistry tests and determine if each test result is within a healthy or unhealthy range.
- Students will determine if the studied stream is healthy or unhealthy based on their water chemistry results and macroinvertebrate survey.

Program Outline:

1. Walk students to the stream access point and ask them to describe characteristics of a healthy stream. Based on the characteristics they shared, ask them to predict if the stream is healthy or unhealthy.
2. Ask students how scientists can determine the health of the stream. Today we will be looking at the macroinvertebrate population and water chemistry to learn about the health of this stream.
3. Macroinvertebrate Survey
 - a. Define a macroinvertebrate and talk about how some are sensitive and some tolerant to poor conditions and how the presence or absence of different macroinvertebrates can tell you if a stream is healthy or not.
 - b. Show students how to conduct a macroinvertebrate survey and use the ID cards.
 - c. At the end of the survey, ask students to share what they found and explain why they think this stream is healthy or unhealthy.
4. Water Chemistry Tests
 - a. Tell students about the following water chemistry tests and why they are important: Temperature, Dissolved Oxygen, Salinity, Nitrogen and Phosphorus.
 - b. Show students how to perform each test and break them into small groups to complete one test and then share out their results to the larger group.
 - c. Using tables, have students determine if each water chemistry test was Good, Fair, Marginal or Poor. As a group, students should determine if the stream is healthy or unhealthy.
5. At the end of the field trip, ask students to reflect on the day and decide if the stream is healthy or unhealthy and why.